



Fort George G. Meade

Manor View Dump Site Non-Time Critical Removal Action (NTCRA)

Restoration Advisory Board Meeting
November 17, 2011

Tom Crone — ARCADIS



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Manor View Dump Site Presentation Summary

Site Background and Project Status
Summary of Removal Action
Next Steps





Manor View Dump Site

Site Background and Project Status

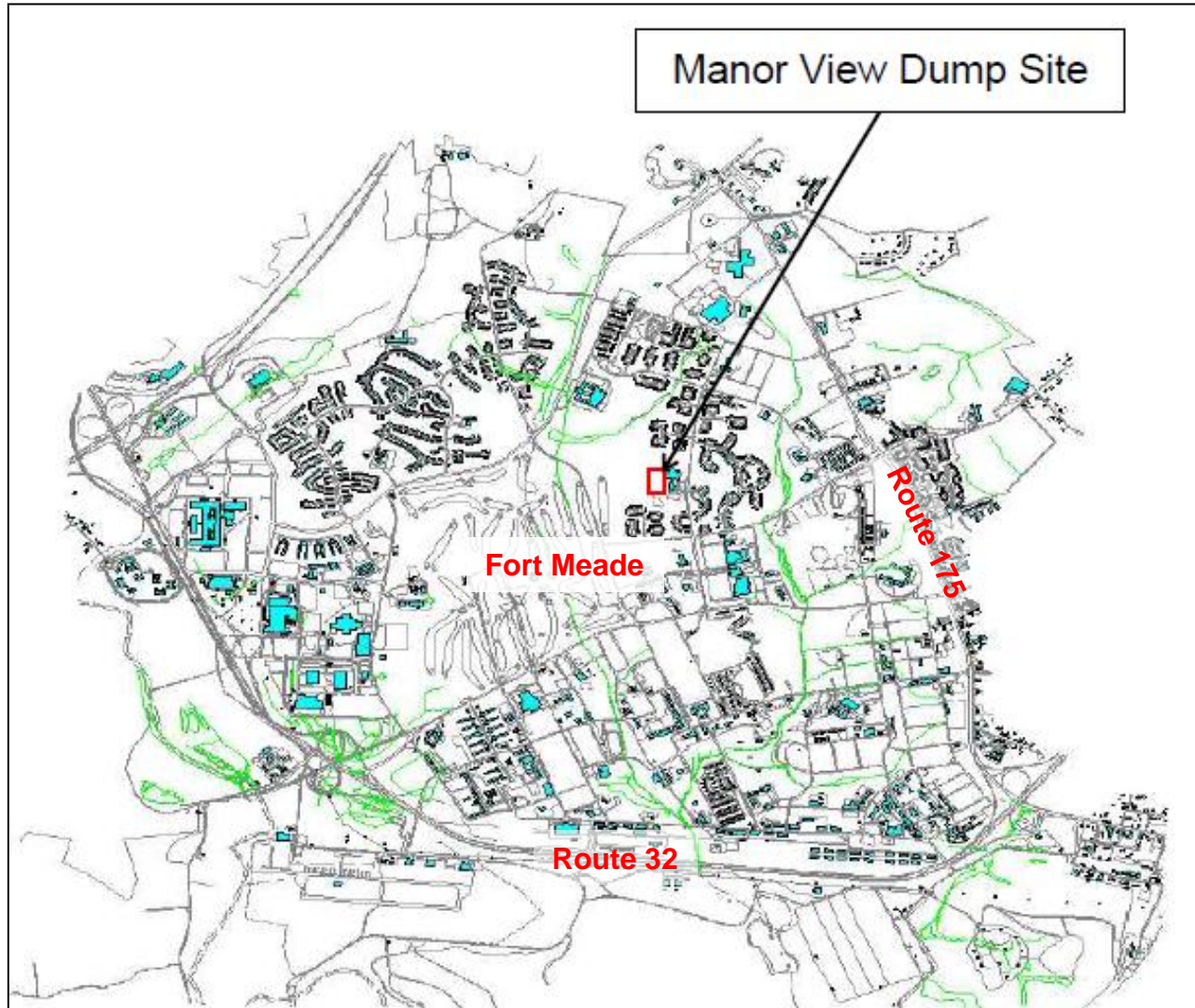
Summary of Removal Action

Next Steps



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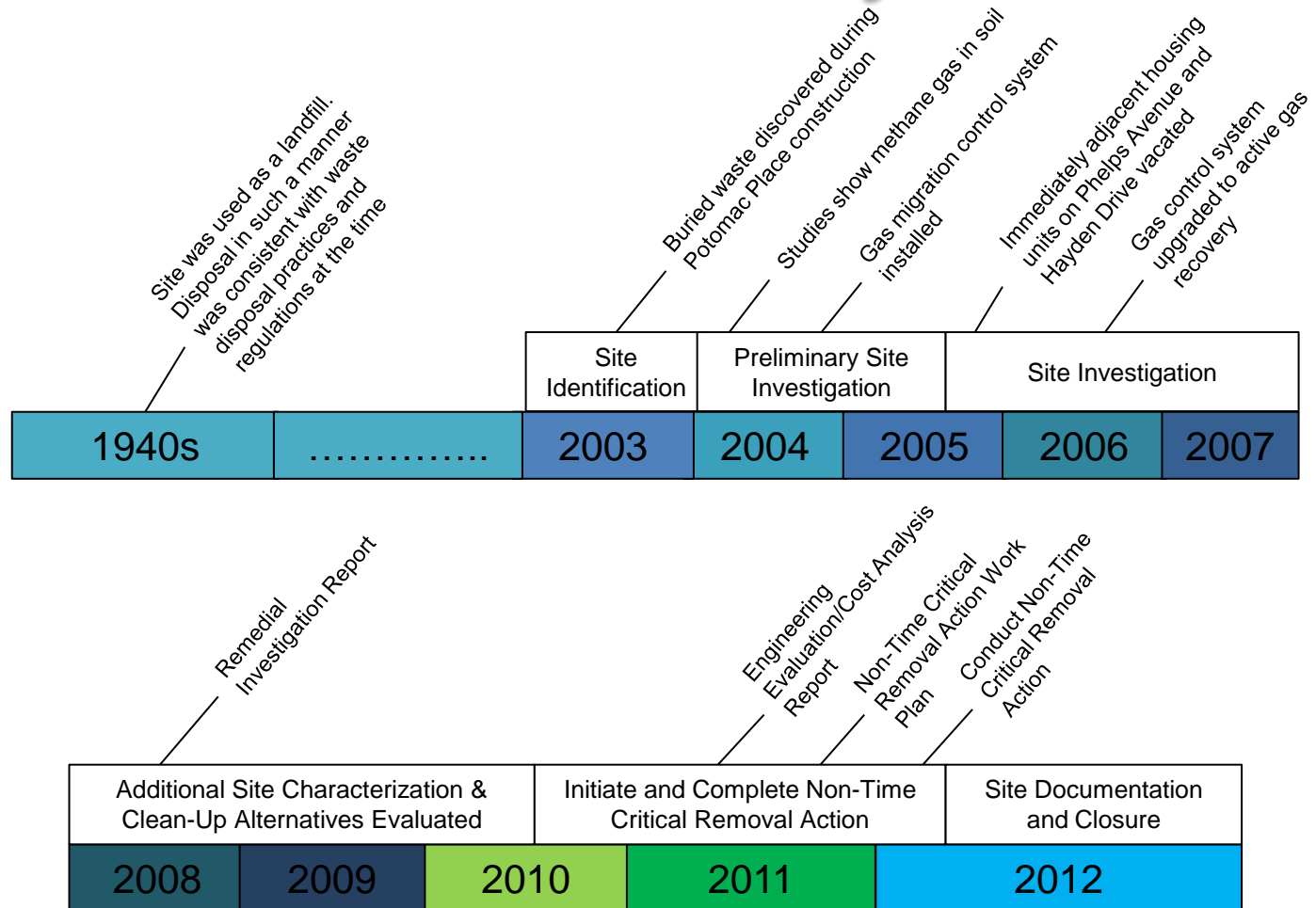
Manor View Dump Site Location



Manor View Dump Site



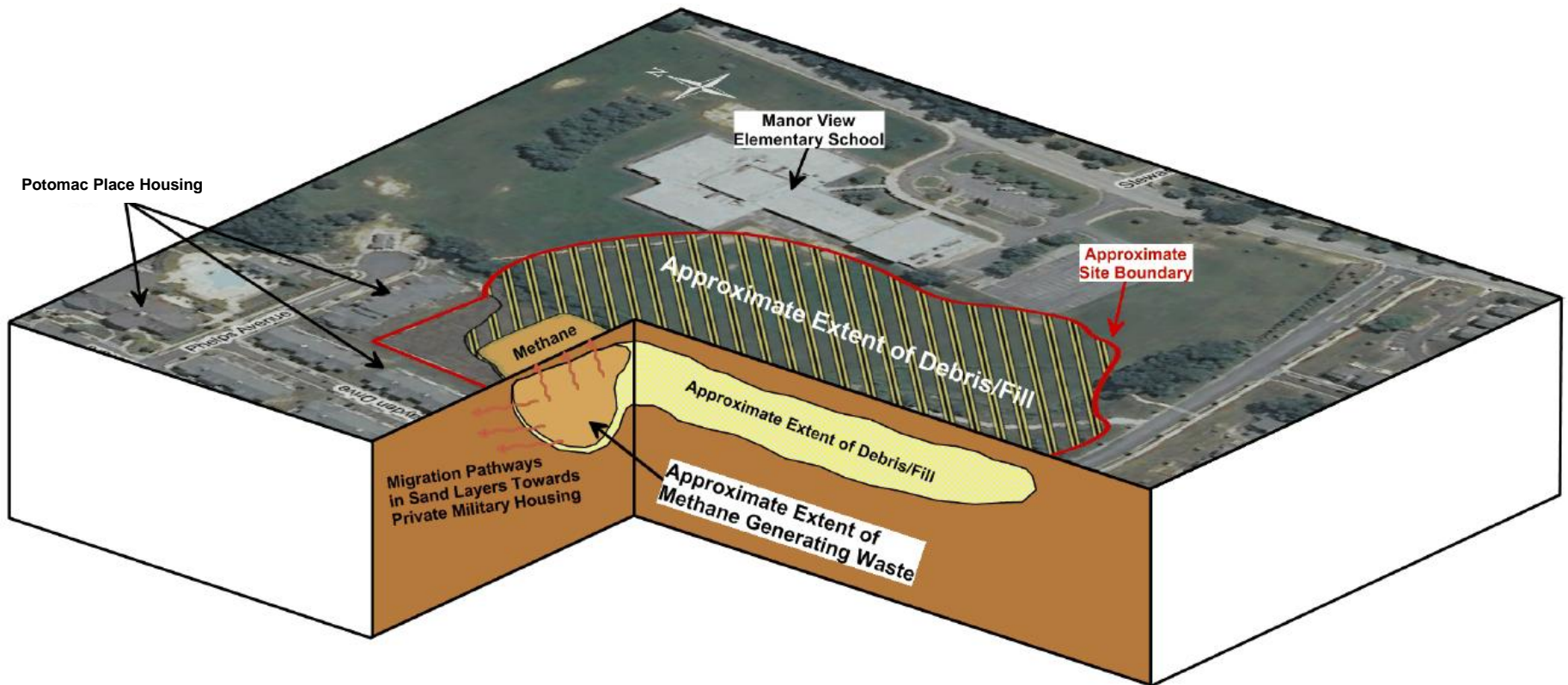
Site History



Current Site Conditions

- One acre of buried waste is decomposing and generating methane above the lower explosive limit of 50,000 parts per million by volume
- Methane is migrating underground in a westerly direction towards Potomac Place, and methane is captured by the gas migration control system
- The system currently draws methane out of the ground and away from the residential properties
- Inert debris present below the existing soil cover poses no risk to faculty, students, or community residents
- Methane generating waste poses no risk to Manor View Elementary
- Methane levels are monitored weekly

Manor View Dump Site



What is methane?

- Methane is formed when a carbon source (i.e. buried waste), water, and a lack of oxygen are present
- Also known as natural gas, methane is an odorless and colorless gas. Methane can form within landfills as a natural byproduct when organic waste biodegrades.
- Methane is not toxic, but can pose a safety hazard at certain concentrations (above the lower explosive limit) and is an asphyxiation hazard
- Methane is lighter than air and migrates upward through the soil via path of least resistance (through sandy soils rather than clayey soils)

Manor View Dump Site

Site Description:

- The Manor View Dump Site is an approximately 10 acre site near the intersection of MacArthur Road and 2nd Corps Boulevard in the northern portion of Fort Meade

The Problem:

- One acre of buried waste is decomposing and generating methane at unsafe levels

The Preferred Remedy:

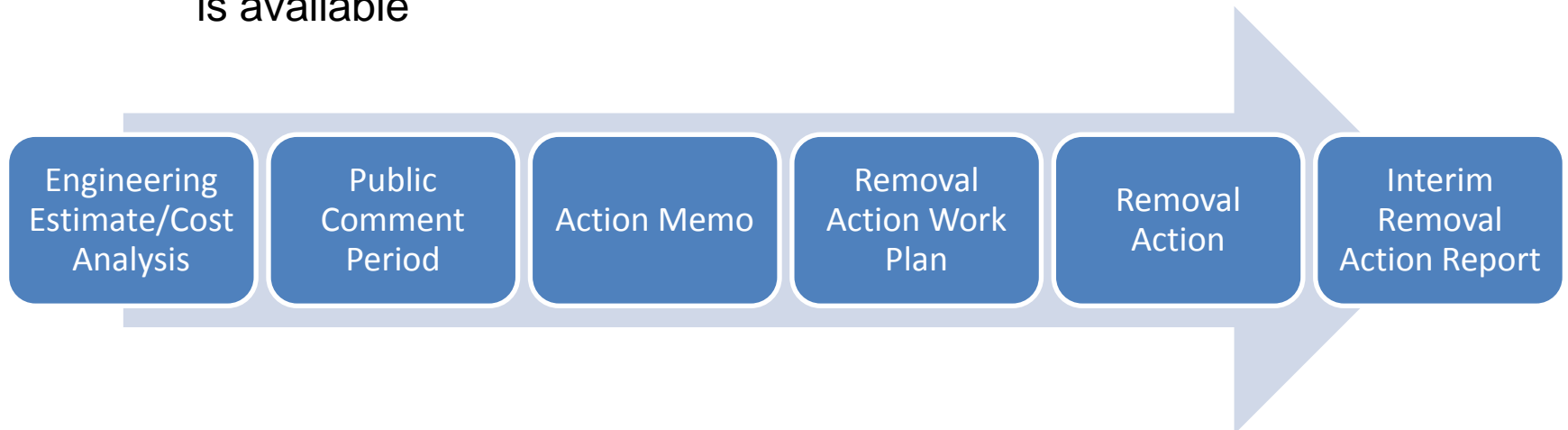
- Remove the methane generating waste and haul waste to an approved off-Post landfill for proper disposal
- Remaining 9 acres of inert debris will be addressed in a future Feasibility Study

Removal Response Action

This project is being implemented under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund

Specially, this project is considered a Non-Time Critical Removal Action

- Must follow a prescribed process (depicted below)
- Conducted when the lead Agency determines that an accelerated removal action is appropriate but a planning period of at least six months is available



Project Progress

1. Initiated NTCRA	Completed
2. Engineering Evaluation/Cost Analysis (EE/CA)	Completed
3. 30 Day Public Notice Period	Ongoing (Nov 1 – 30)
a. Public Meeting	November 9, 2011
4. Action Memorandum	Ongoing
5. Removal Action Work Plan	Ongoing
6. Removal Action	Winter 2011/2012
7. Interim Removal Action Report	Spring 2012



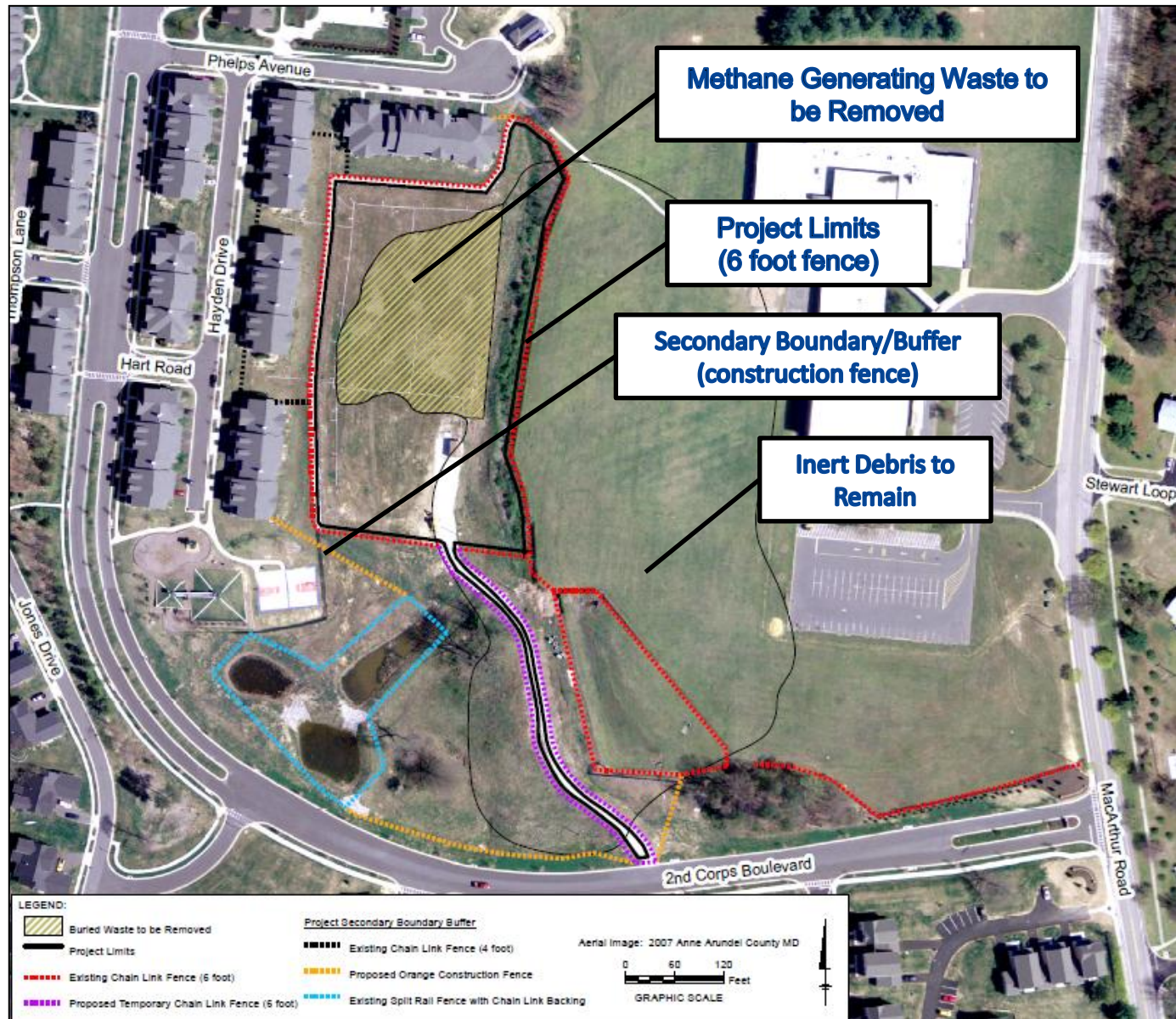
Manor View Dump Site

- ✔ Site Background and Project Status
- Summary of Removal Action
- Next Steps



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Project Limits



Summary of Removal Action

Three Major Phases of Work



1. Site Controls
(3 weeks)



2. Excavation,
Transportation, and
Disposal
(6 weeks)



3. Site Restoration
(5 weeks)

← Ongoing Air Monitoring, Methane Monitoring, Traffic Control, Dust Control, Odor Control, and Noise Control →

Phase 1 – Site Controls

- Approximately 8 people and 5 pieces of equipment
- Work Hours are Monday – Friday 7:00 AM to 5:00 PM
 - No weekend work (unless specifically approved)
 - No work on Federal holidays
- Site Controls Ensures:
 1. Protection of the construction workers and the community
 2. The Site is able to accommodate the planned work
 3. Protection of the environment

Site Controls: Protect Construction Workers and Community

- Utilize existing chain link fence
- Additional temporary chain link fencing will be installed to enclose work zones not currently fenced
- Orange safety fence will be installed outside of the chain linked fence to act as a buffer between the Site and the community



Existing chain linked fence at Manor View (facing southwest)

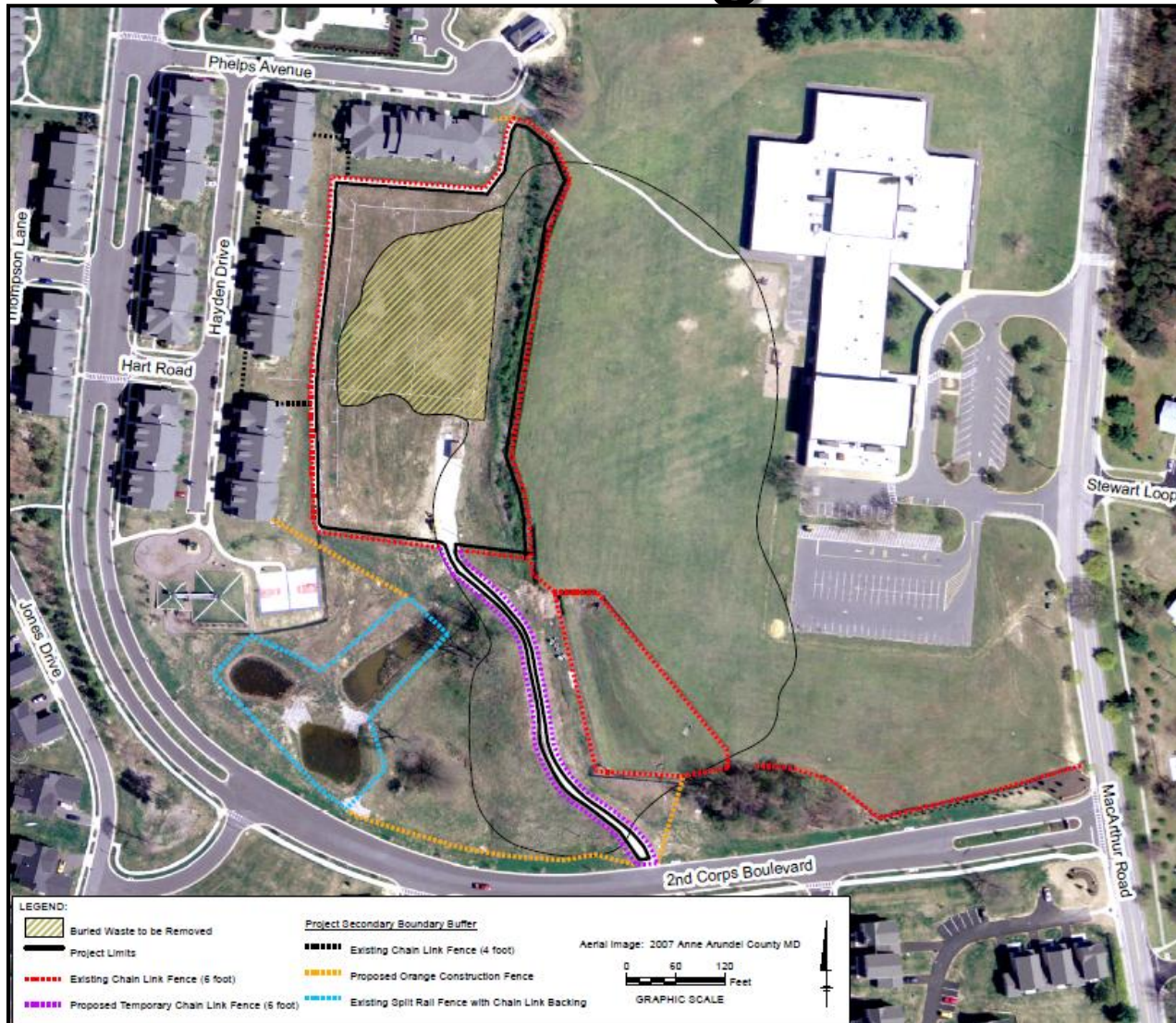


Construction fence used at a federal facility



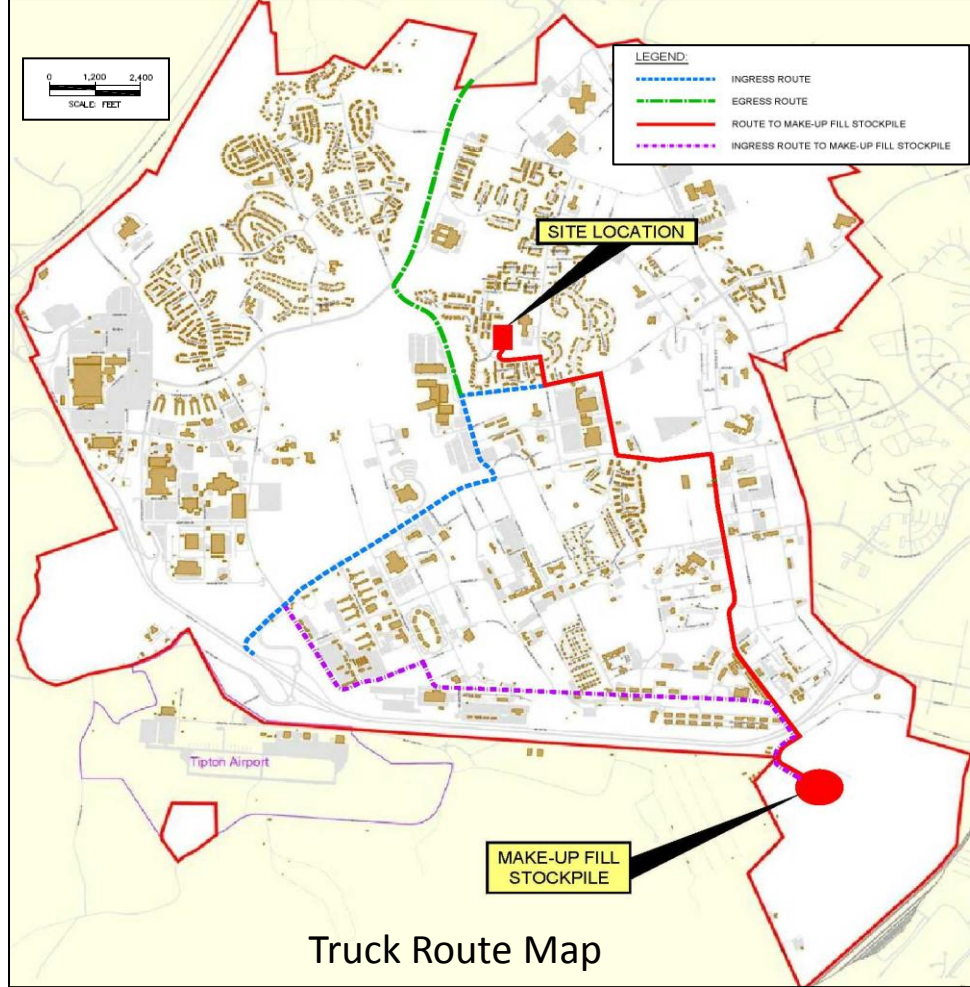
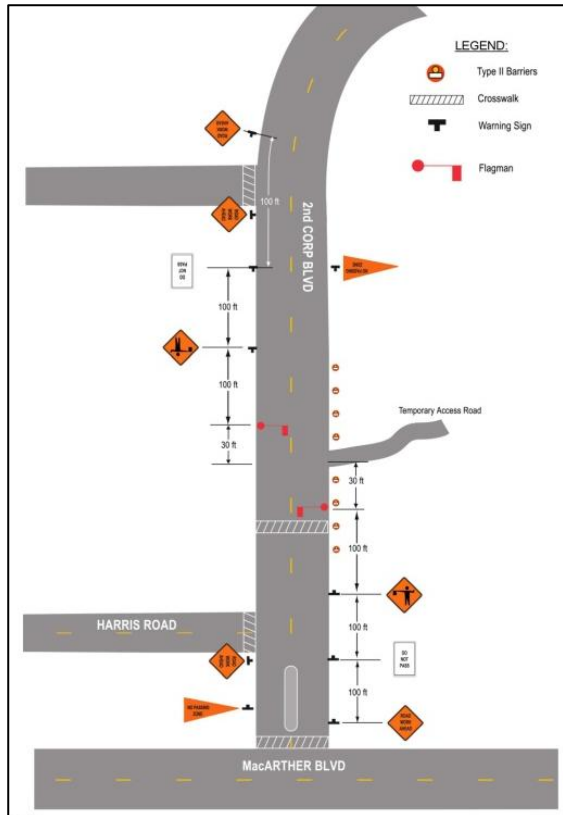
Typical temporary chain linked fence

Site Controls: Site Boundaries and Fencing



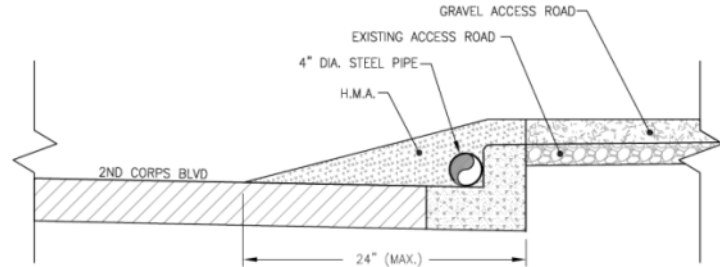
Site Controls: Protect Construction Workers and Community

- Install traffic controls along 2nd Corps Boulevard (Blvd.). No parking along 2nd Corps Blvd.
- Utilize established truck routes
- Truck traffic going to and from the Site will be **prohibited** during Manor View Elementary student drop-off and pick-up times (i.e., 7:35-8:35 AM and 2:00-3:00 PM)



Site Controls: Accommodate the Planned Work

- Construct a temporary curb ramp at 2nd Corps Blvd.
- Construct a stabilized construction entrance
 - Consists of a fabric material placed on the ground and overlain with several inches of large diameter stone
 - Built per Maryland Department of the Environment (MDE) Erosion and Sediment Control Specifications



NOTES:

- ALL MATERIALS SHALL BE REMOVED UPON COMPLETION OF WORK. CURB SHALL BE INSPECTED AND PORTIONS REPLACED IF DAMAGED. IF REPLACEMENT IS REQUIRED WORK WILL BE COORDINATED WITH FORT GEORGE G. MEADE DPW.
- PRE FABRICATED CURB RAMPS SUCH AS DISCOUNT RAMPS LLC HEAVY DUTY CURB RAMP (# KR45R, 30 TON CAPACITY) OR EQUIVALENT MAY BE SUBSTITUTED IF ALTERNATE TEMPORARY CURB RAMP DESIGN IS SUBSTITUTED BY CONTRACTOR AND SUBSEQUENTLY APPROVED.

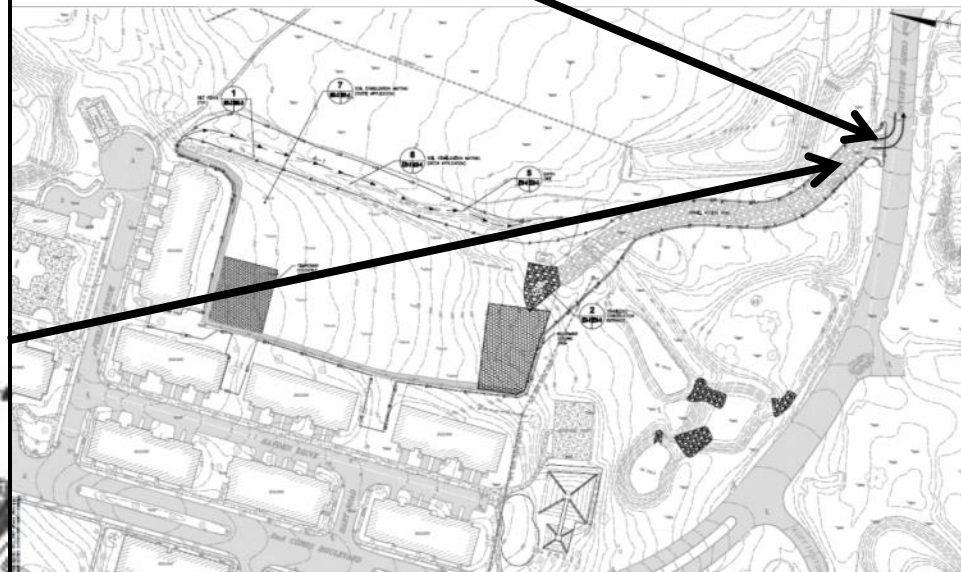
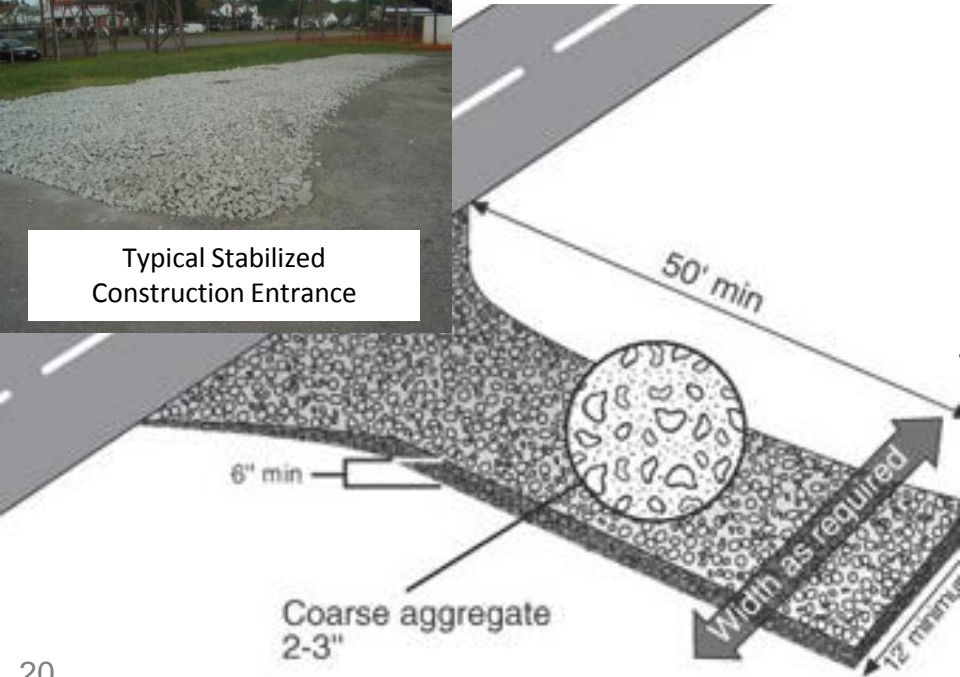


TEMPORARY CURB ENTRANCE DETAIL

N.T.S.



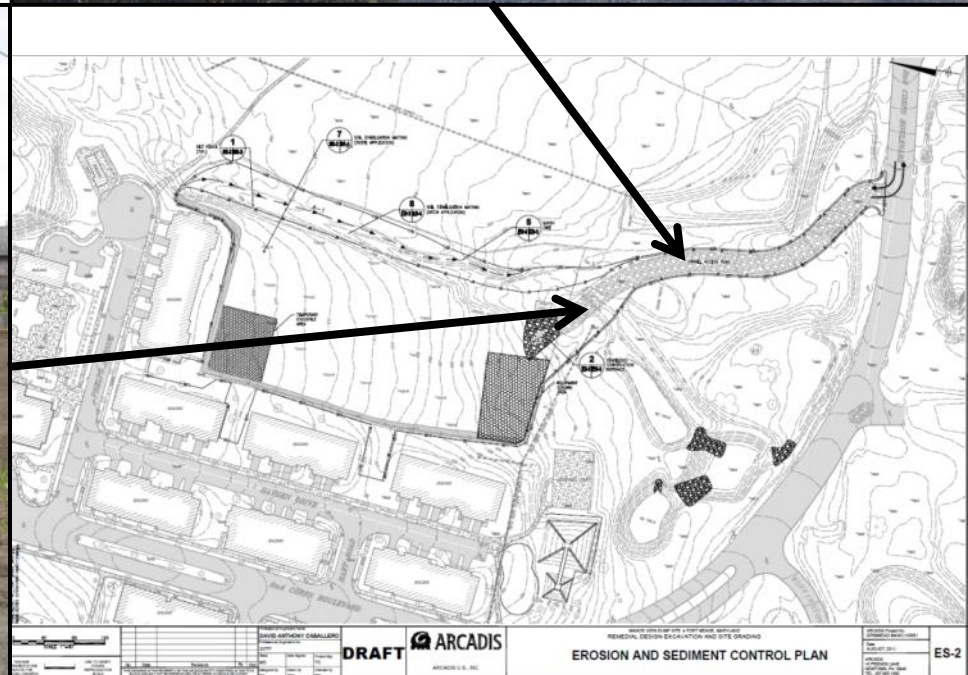
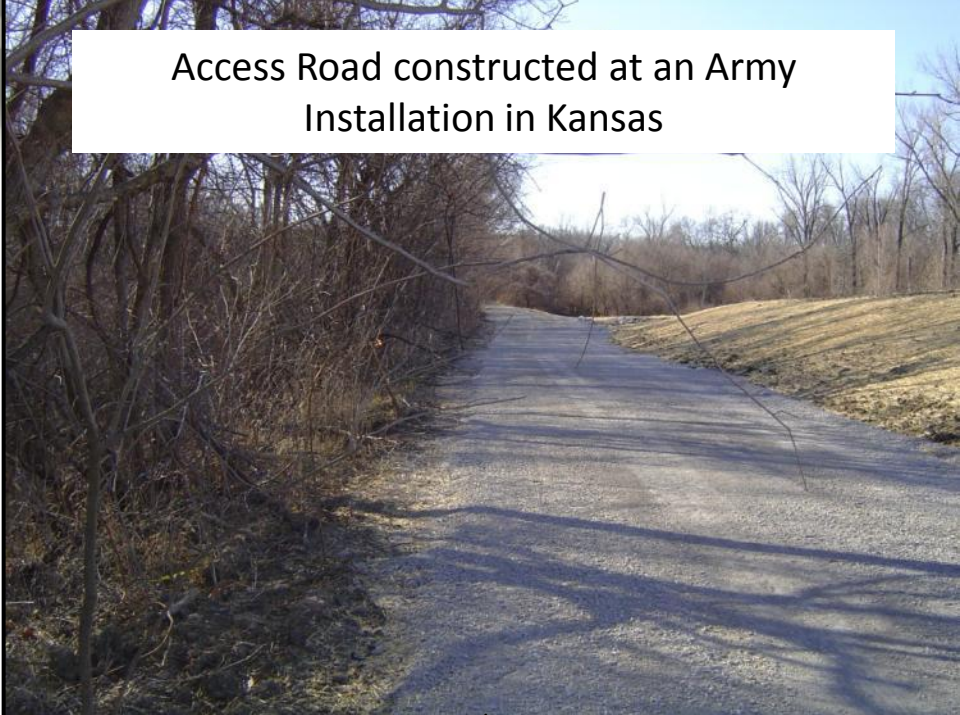
Typical Stabilized Construction Entrance



Site Controls: Accommodate the Planned Work

- Widen Access Road to accommodate two way truck traffic
- Install a longer and larger culvert to accommodate wider road and heavier truck traffic

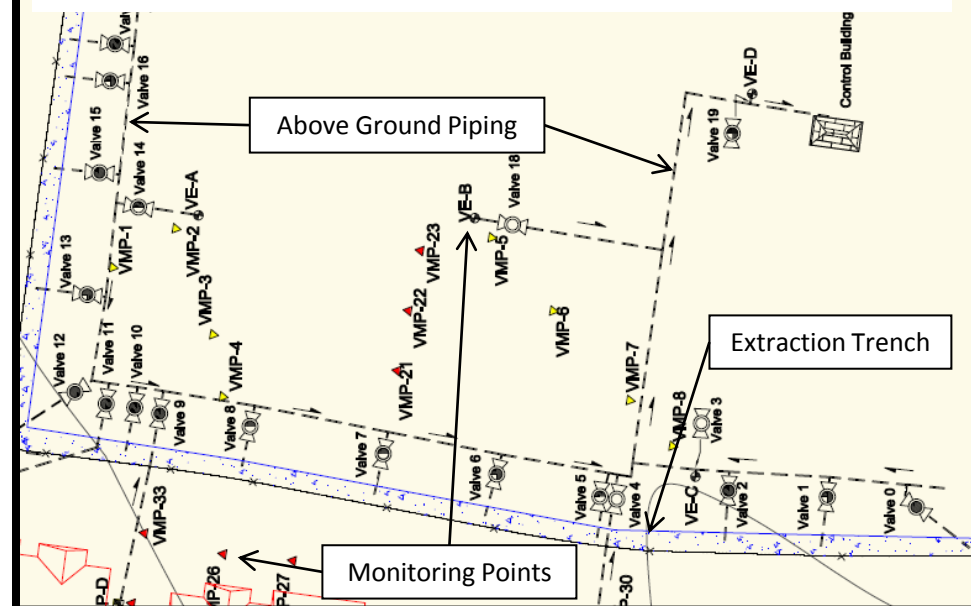
Access Road constructed at an Army Installation in Kansas



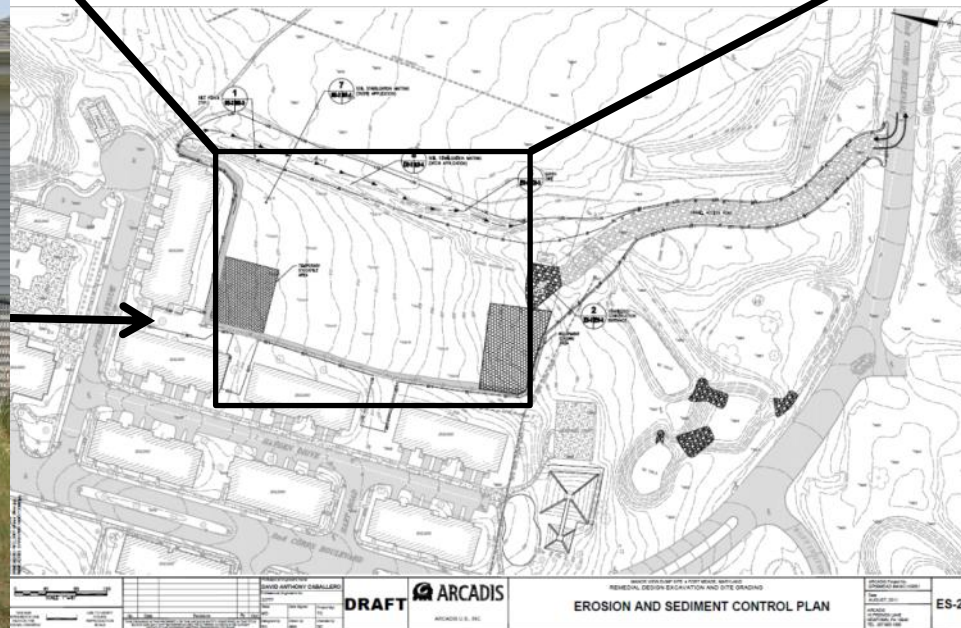
Site Controls: Accommodate the Planned Work

- Relocate existing gas migration control system to below grade
 - Allow for equipment to easily traverse the site
 - Allow the site to be available for reuse sooner

Schematic of existing gas migration control system



Dormant sections to be removed



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EROSION AND SEDIMENT CONTROL PLAN

ES-2

Site Controls: Protecting the Environment

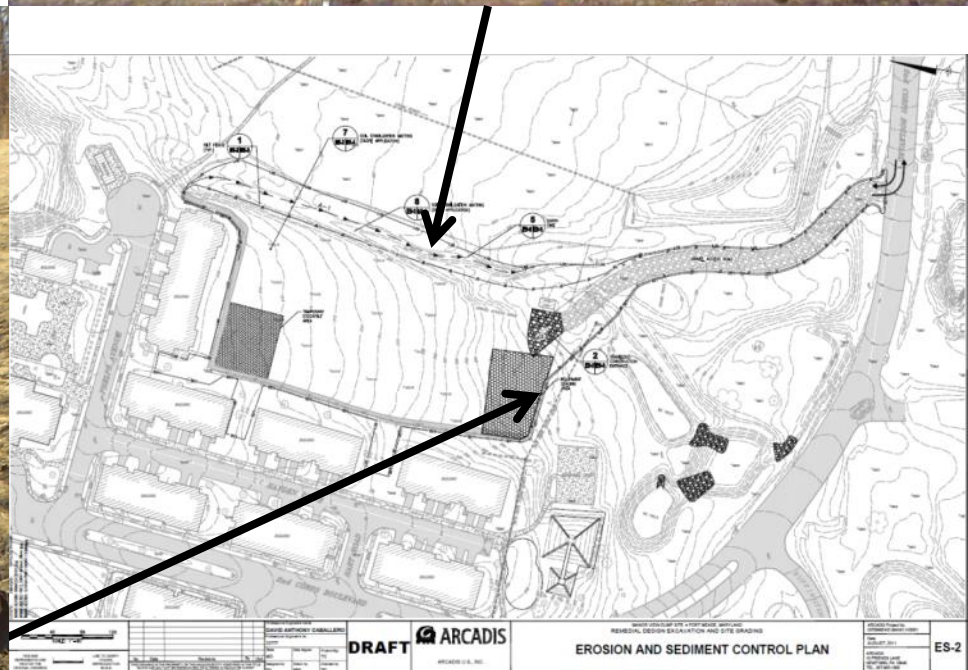
- Install silt fence
- Install super silt fence (silt fence backed with chain link fence)
- Install earthen berms
- All controls in accordance with MDE's:
 - Erosion and Sediment Control Guidelines for State and Federal Projects (2004)
 - Stormwater Management Guidelines for State and Federal Projects (2010)

Silt fence at an Army Installation in Kansas. Will be installed along Manor View's north, east, and west boundary

Silt fence minimizes erosion of the soil and protects surface water from contamination



Super Silt Fence at an Army Installation in Kansas. Will be installed along Manor View's southern boundary



Phase 2 – Excavation, Transportation, and Disposal

- The removal of methane generating waste will occur in three generalized steps
 1. Remove and stockpile the existing soil cover (the methane generating waste is covered with 4-8 feet of soil)
 2. Excavate, transport, and dispose methane generating waste
 3. Backfill the excavated area with stockpiled soil
- These steps will be completed concurrently to the highest degree possible to:
 - Limit the amount of methane generating waste that is exposed at any one time
 - Maximize production, thereby shortening the overall duration
- Although never discovered, contingency plans have been developed to respond to the discovery of munitions and explosives of concern, drums, asbestos, or cultural resources

Remove and Stockpile Existing Soil Cover

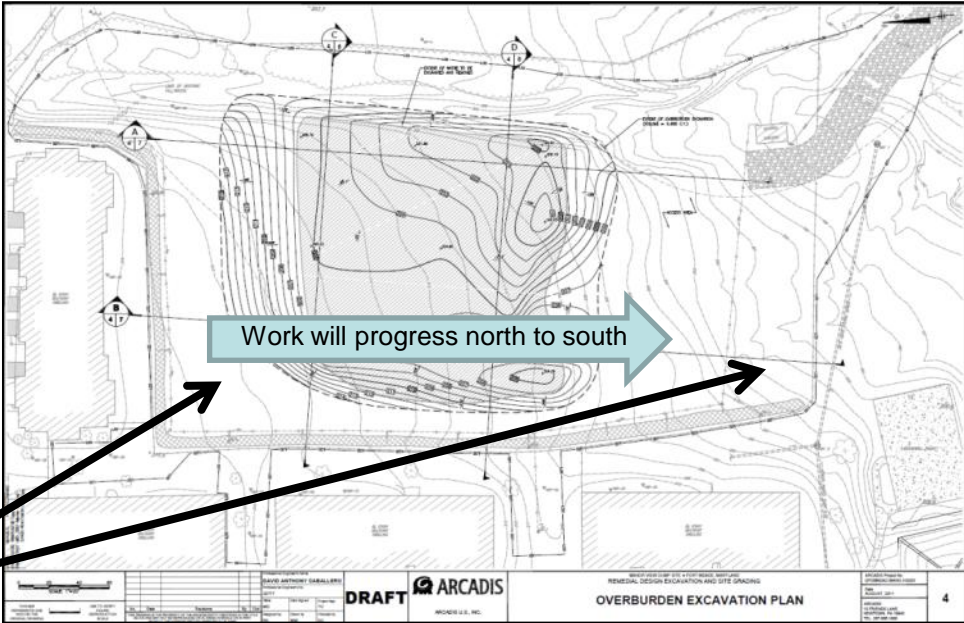
- Phased excavation of 9,500 cubic yards of existing soil cover
 - Equivalent to 3 Olympic sized swimming pools
 - Soil cover is 4 – 8 feet thick
- Existing soil cover will be removed in phases (uncovering only enough waste that can be excavated that day) thereby limiting the amount of methane generating waste exposed at any one time



Hydraulic excavator planned for Manor View. Photo is of soil excavation on a federal facility in Rhode Island.



Soil stockpiling at a federal facility in Delaware



Stockpile areas planned at Manor View

Excavate, Transport and Dispose of Methane Generating Waste

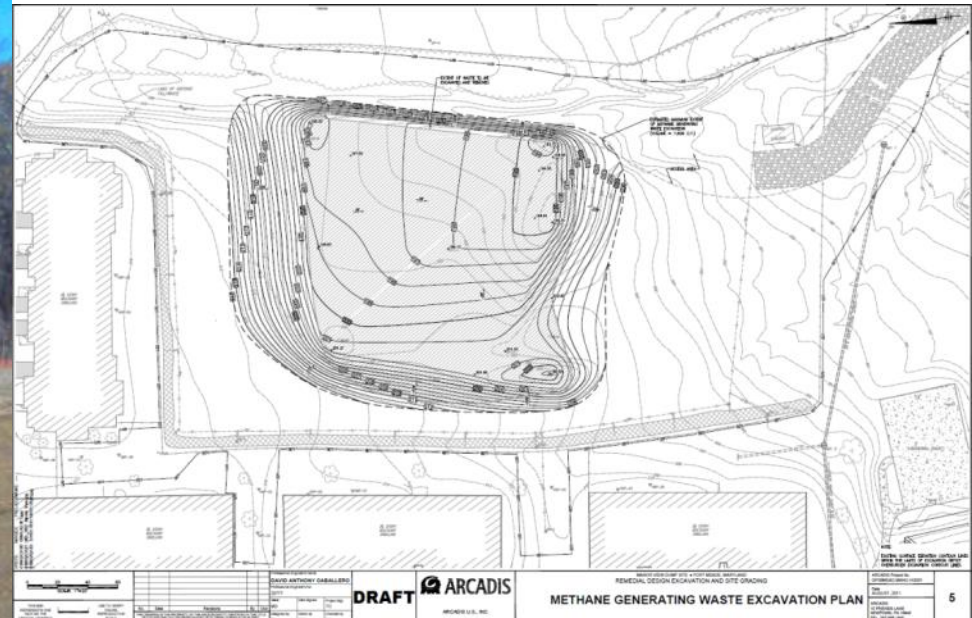
EXCAVATE

- Phased excavation of 7,800 cubic yards of buried methane generating waste
 - Waste is present from 8 to 15 feet below ground surface
 - Bottom of waste has been 100% delineated by previous investigation
- Quantity of methane generating waste to be removed is equivalent to 400 dump trucks



Methane generating waste excavation at a federal facility in Rhode Island

Soil excavation and load out at an Army Installation in Kansas



Excavate, Transport and Dispose of Methane Generating Waste

TRANSPORT

- 400 dump trucks of methane generating waste will be transported to a proper disposal facility
 - On average there will be 100 trucks per week, 20 trucks per day
 - Trucks prohibited from entering or exiting the site between 7:35-8:35 AM and 2:00-3:00 PM

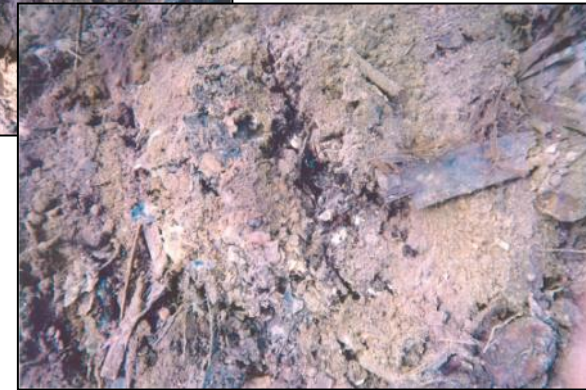
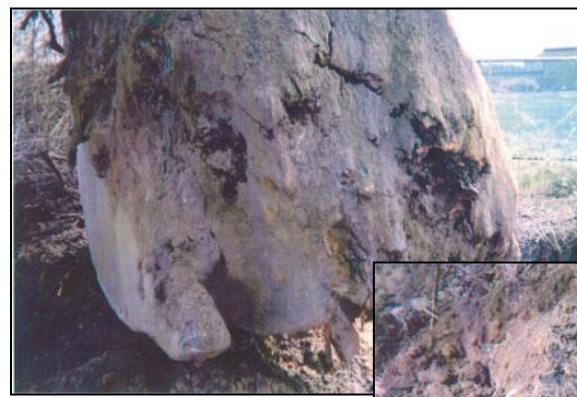
DISPOSE

- Methane generating waste will be hauled to an approved off-post facility (landfill) for proper permanent disposal
 - These landfills have proper methane venting management systems
 - The facility will be inspected by United States Environmental Protection Agency (USEPA) and approved prior to disposal

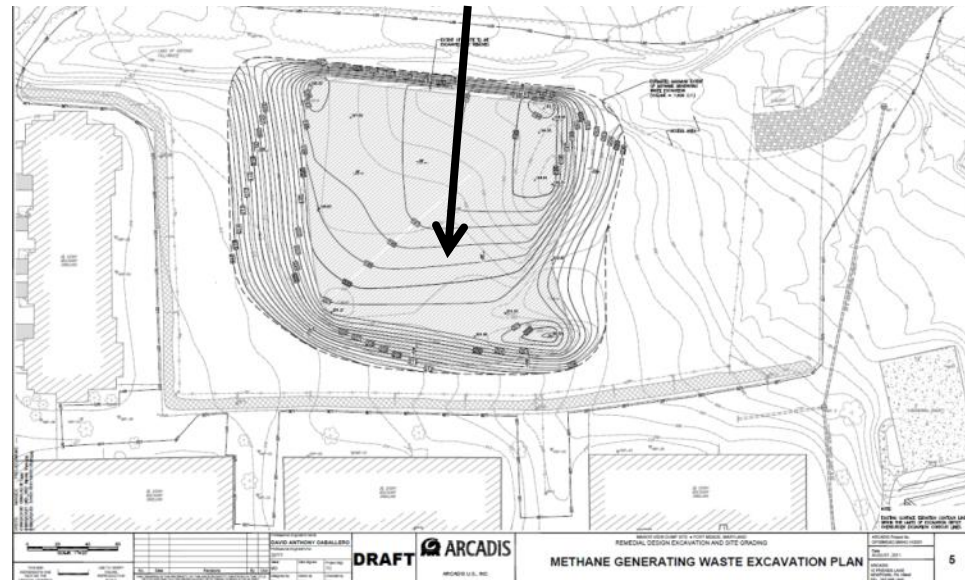


Off-Road Dump Truck

Typical dump truck expected to be used for transportation



Pictures of methane generating waste from Manor View Dump Site



Phase 3 – Site Restoration

The objectives of Site Restoration include:

1. Grade the site to allow for future reuse
2. Stabilize the site to ensure continued protection of the environment
3. Remove all temporary features associated with the project
(except for erosion and sediment controls)
4. Remove the existing chain link fence once vegetation has been successfully established



Grade the site to allow for future reuse

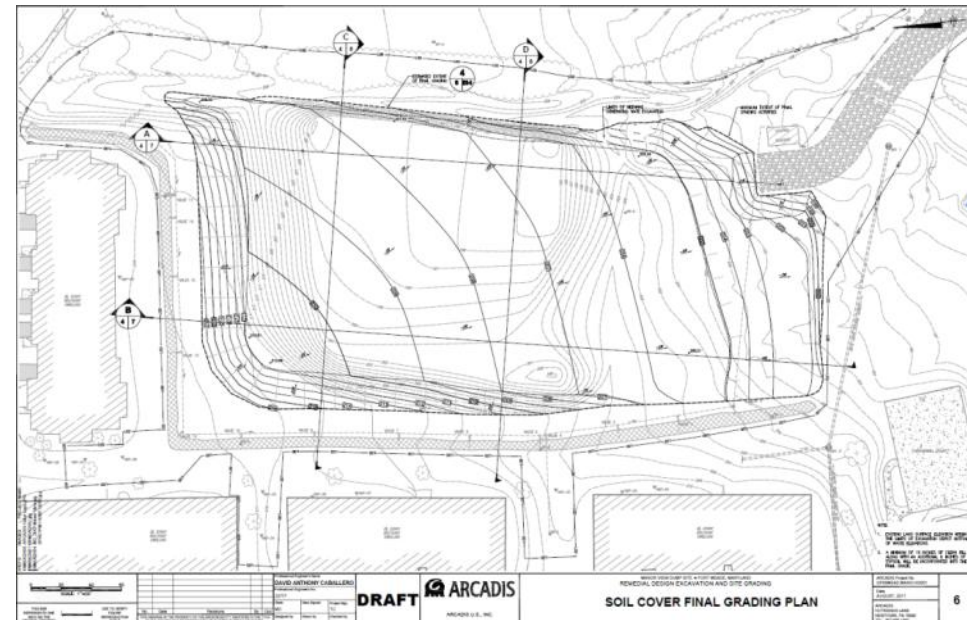
- Regrade the existing soils to achieve a flatter open site
- Place geotextile (fabric) to mark extent of excavation and regraded soils
- Place 18 inches of clean soil from an existing Fort Meade stockpile
- Place 6 inches of clean topsoil from an off-site provider



Regrading at an Army Installation in Kansas and geotextile at an Army Installation in New Jersey



Placement of 18 inches of soil and 6 inches of topsoil at an Army Installation in New Jersey



Stabilize the Site to Protect the Environment

- Use MDE approved practices to stabilize the site
 - Perform stormwater calculations based on post-construction conditions
 - Use a permanent seeding mixture per MDE specifications
 - Install erosion matting

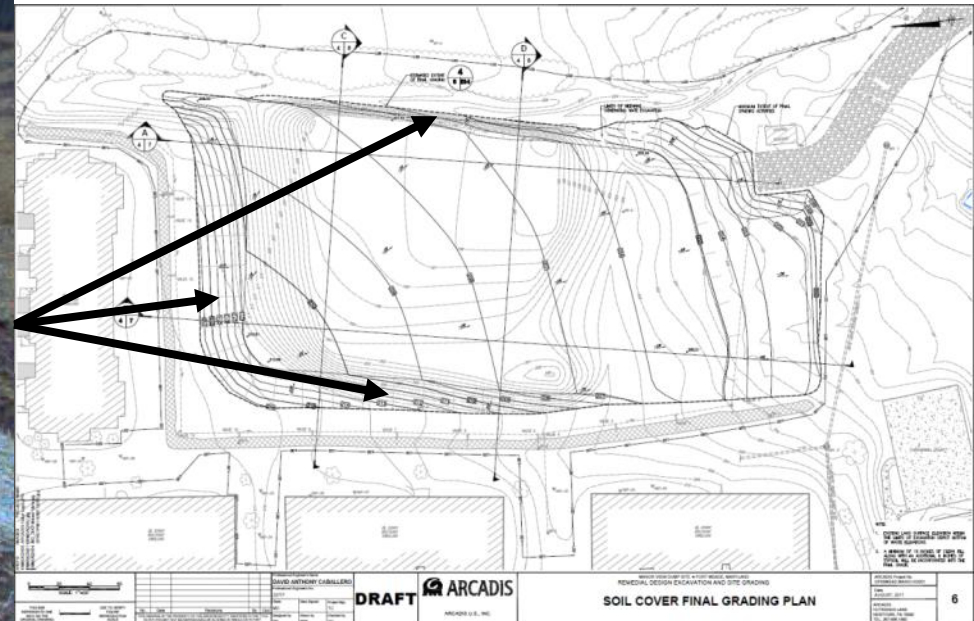
Seeding and mulching (straw) at an Army Installation



Straw mulch or hydraseeding may be used at Manor View



Staking of erosion matting at an Army Installation. Same type of matting will be installed on slopes at Manor View





Current Site Conditions



Proposed Site Conditions: chain link fence and above ground piping removed, building relocated, and site grading completed

On-Going Site Activities During All 3 Phases

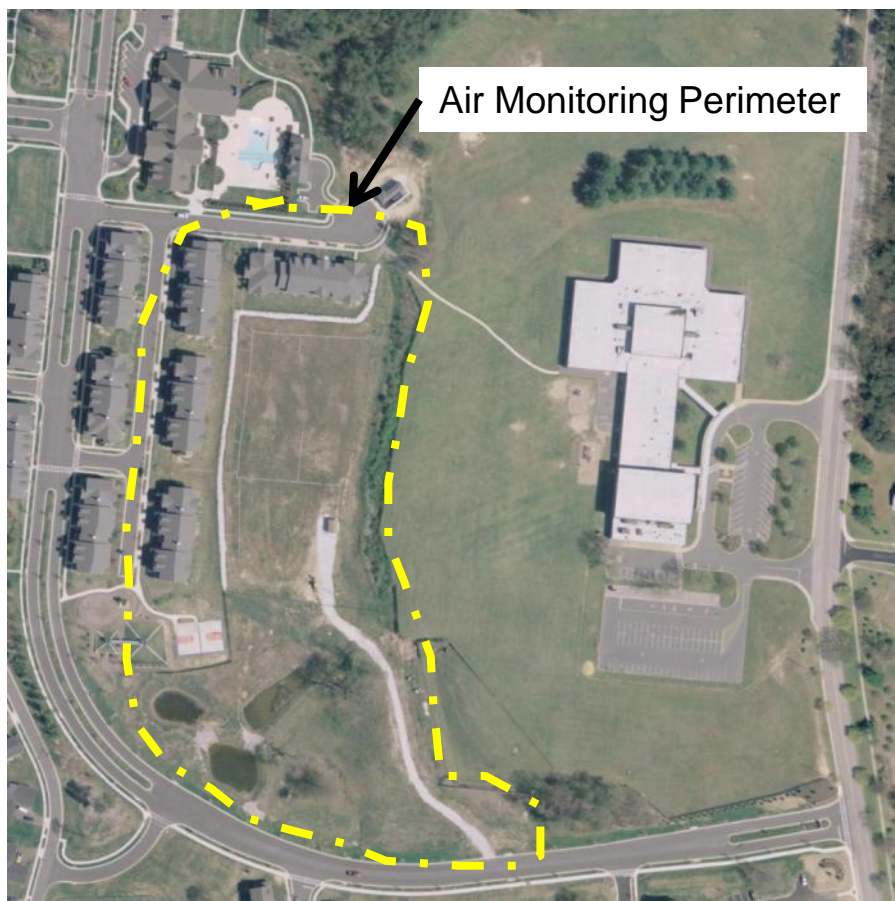
- Site Air Monitoring
- Community Air Monitoring
- Odor Control Measures
- Dust Control Measures
- Daily Health and Safety Meetings
- Daily Housekeeping Practices
- Routine Inspections of Site Controls (fencing, traffic controls, and stormwater/erosion and sediment controls)

On-Going Site Activities During All 3 Phases

It is the GOAL of these activities to:

- Protect Site Workers
- Protect Community Members
- Minimize Impact to Community
- Minimize Impact to Environment

Air Monitoring



- Real time air monitoring will test the air for:
 - Methane
 - Hydrogen sulfide (e.g. rotten egg smell)
 - Volatile Organic Compounds (e.g. solvent vapors)
 - Particulates (dust)
- Air monitoring equipment will be placed on four sides the Site along the depicted perimeter to ensure that the community is protected

Methane Monitoring



Methane
Monitoring at
Manor View
Dump Site



- Methane is lighter than air and is expected to rapidly disperse upon starting excavation
- Methane will continue to be monitored before, during, and after the project:
 - In the excavation limits
 - In the soils surrounding the site

Minimizing Impact to the Community: Odor/Dust Control

- Working during winter minimizes the generation of odors and dust
- Several odor control technologies available
 - Minimize exposure of waste during excavation
 - Fragrance
 - Odor control foam (pictured at right)
 - Use of a water truck



Water truck in use to control dust and reduce odors

Construction Noise

Noise is a part of any construction project

The loudest noises anticipated are equipment startup and the loading and unloading of trucks

Typically some of the loudest noises are generated by the tailgates of dump trucks swinging shut

Truck drivers will be instructed to minimize this noise as much as practicable



No continuous noise sources (generators, screening equipment, or large pumps) are anticipated on this project



Manor View Dump Site

- ✔ Site Background and Project Status
- ✔ Summary of Removal Action

Next Steps



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Next Steps

November 30, 2011	Public Comment Period on the EE/CA ends
November/December 2011	Finalize and sign Action Memo Finalize Removal Action Work Plan
Mid January	Begin preparing Site for Removal Action Mobilize personnel and equipment to Site and begin site preparation phase

Acronyms and Abbreviations

Bld.	Boulevard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EE/CA	Engineering Evaluation/Cost Analysis
MDE	Maryland Department of the Environment
NTCRA	Non-Time Critical Removal Action
USEPA	United States Environmental Protection Agency

Points of Contact

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